

CLAIMS

1. A thermoplastic resin composition comprising the following components:

(A) from 20 to 79.5 parts by weight of a polyamide resin;

(B) from 20 to 79.5 parts by weight of a graft polymer,

said graft polymer being obtained by,

(a) in the presence of from 40 to 80 wt% of a rubber-like polymer having a swell index of 10 to 80 and a weight average particle diameter of 100 to 600 nm,

(b) graft-polymerizing from 20 to 60 wt% of a monomer mixture comprising:

(i) from 50 to 90 wt% of an aromatic vinyl-based monomer,

(ii) from 10 to 50 wt% of a vinyl cyanide-based monomer, and

(iii) from 0 to 30 wt% of another vinyl monomer copolymerizable with those monomers,

in which the acetone-soluble moiety of the graft polymer has a number average molecular weight of 20,000 to 200,000;

(C) from 0.5 to 60 parts by weight of an unsaturated carboxylic acid-modified polymer,

said unsaturated carboxylic acid-modified polymer being obtained by copolymerizing from 0.05 to 20 wt% of an unsaturated carboxylic acid monomer, from 50 to 89.95 wt% of an aromatic vinyl-based monomer and from 10 to 49.95 wt% of a vinyl cyanide-based monomer, and having a number average molecular weight of 22,000 to 60,000; and

(D) from 0 to 50 parts by weight of a copolymer,

said copolymer being obtained by copolymerizing from 50 to 90 wt% of an aromatic vinyl monomer, from 10 to 50 wt% of a vinyl cyanide-based monomer and from 0 to 60 wt% of another vinyl-based

monomer copolymerizable with those monomers;
with the proviso that the total amount of the components
(A) to (D) is 100 parts by weight.

2. A thermoplastic resin composition comprising
5 the following components:

(A) from 20 to 79.5 parts by weight of a
polyamide resin;

(B) from 20 to 79.5 parts by weight of a graft
polymer,

10 said graft polymer being obtained by,

(a) in the presence of from 40 to 80 wt%
of a rubber-like polymer having a swell index of 10 to 80
and a weight average particle diameter of 100 to 600 nm,

(b) graft-polymerizing from 20 to 60 wt%
15 of a monomer mixture comprising:

(i) from 50 to 90 wt% of an aromatic
vinyl-based monomer,

(ii) from 10 to 50 wt% of a vinyl cyanide-
based monomer, and

20 (iii) from 0 to 30 wt% of another vinyl
monomer copolymerizable with those monomers,

in which the acetone-soluble moiety of the
graft polymer has a number average molecular weight of
20,000 to 200,000;

25 (C) from 0.5 to 60 parts by weight of an
unsaturated carboxylic acid-modified polymer,

said unsaturated carboxylic acid-modified
polymer being obtained by copolymerizing from 0.05 to 20
wt% of an unsaturated carboxylic acid monomer, from 50 to
30 89.95 wt% of an aromatic vinyl-based monomer and from 10
to 49.95 wt% of a vinyl cyanide-based monomer, and having
a number average molecular weight of 22,000 to 60,000;

(D) from 0 to 50 parts by weight of a
copolymer,

35 said copolymer being obtained by
copolymerizing from 50 to 90 wt% of an aromatic vinyl
monomer, from 10 to 50 wt% of a vinyl cyanide-based

monomer and from 0 to 60 wt% of another vinyl-based monomer copolymerizable with those monomers; with the proviso that the total amount of the components (A) to (D) is 100 parts by weight; and

5 (E) from 0.05 to 150 parts by weight of an inorganic filler.

3. The thermoplastic resin composition as claimed in claim 2, wherein the number average molecular weight of the polyamide resin is from 10,000 to 20,000.

10 4. The thermoplastic resin composition as claimed in any one of claims 1 to 3, wherein the graft polymer is obtained by graft-polymerizing styrene and acrylonitrile in the presence of a rubber-like polymer.

15 5. The thermoplastic resin composition as claimed in any one of claims 1 to 4, wherein the amount of the unsaturated carboxylic acid monomer in the unsaturated carboxylic acid-modified copolymer is from 0.5 to 10 wt%.

20 6. The thermoplastic resin composition as claimed in any one of claims 1 to 4, wherein the amount of the unsaturated carboxylic acid monomer in the unsaturated carboxylic acid-modified copolymer is from 0.8 to 7 wt%.

25 7. The thermoplastic resin composition as claimed in any one of claims 1 to 6, wherein the unsaturated carboxylic acid in the unsaturated carboxylic acid-modified copolymer is methacrylic acid.

30 8. The thermoplastic resin composition as claimed in any one of claims 1 to 7, wherein the unsaturated carboxylic acid-modified copolymer is obtained by copolymerizing methacrylic acid, styrene and acrylonitrile.

9. The thermoplastic resin composition as claimed in any one of claims 1 to 8, which comprises a rubber-like polymer in the range from 8 to 40 wt%.

35 10. The thermoplastic resin composition as claimed in any one of claims 1 to 8, which comprises a rubber-like polymer in the range from 10 to 25 wt%.

11. The thermoplastic resin composition as claimed

in any one of claims 2 to 10, wherein the inorganic filler is a layered silicate with one unit having a one-side length of 0.002 to 1 μm and a thickness of 6 to 20 Å.

5 12. A shaped article comprising the thermoplastic resin composition claimed in any one of claims 1 to 11.

 13. An automobile part obtained by shaping the thermoplastic resin composition claimed in any one of claims 1 to 11.